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United States Government **Department of Energy**

memorandum

Carlsbad Field Office
Carlsbad, New Mexico 88221

DATE: September 15, 2004

REPLY TO ATTN OF: CBFO:QA:MPN:GS:04-1828:UFC 2300.00

SUBJECT: Audit Report A-04-22 of the Idaho National Engineering and Environmental Laboratory, Advanced Mixed Waste Treatment Project Recertification Audit

TO: Jeff Snook, DOE-ID

The Carlsbad Field Office (CBFO) conducted a recertification Audit of the Idaho National Engineering and Environmental Laboratory (INEEL) Advanced Mixed Waste Treatment Project (AMWTP) August 16-20, 2004. The CBFO audit report is attached.

The audit team concluded that overall, the AMWTP implementing procedures are adequate relative to the flow-down of requirements. The audit team determined that the AMWTP technical requirements are being satisfactorily implemented and are effective in all areas except as documented in the audit report.

As a result of the audit, eight CBFO Corrective Action Reports (CARs) were forwarded under separate cover.

If you have any questions or comments, please contact me at (505) 234-7483

Martin P. Navarrete
Quality Assurance Specialist

Attachment

cc: w/attachment

A. Holland, CBFO	*ED
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A. Dobson, BNFL	*ED
D. Swale, BNFL	*ED
E. Dumas, BNFL	*ED
E. Schweinsberg, BNFL	*ED
M. Eagle, EPA	*ED
E. Feltcorn, EPA	*ED
R. Joglekar, EPA	*ED
B. Shroff, EPA	*ED
S. Zappe, NMED	*ED
S. Holmes, NMED	*ED
D. Winter, DNFSB	*ED
S. Warren, WTS	*ED
J. May, CTAC	*ED
L. Greene, WRES	*ED
CBFO QA File	
CBFO M&RC	
WIPP Operating Records, MS 486-06	

*ED denotes electronic distribution
CBFO:QA:MPN:GS:04-1828:UFC 2300.00

U.S. DEPARTMENT OF ENERGY
CARLSBAD FIELD OFFICE

INTERIM AUDIT REPORT

OF THE

IDAHO NATIONAL ENGINEERING AND ENVIRONMENTAL LABORATORY, ADVANCED MIXED WASTE TREATMENT PROJECT

IDAHO FALLS, IDAHO

AUDIT NUMBER A-04-22

August 16 – 20, 2004

TRU WASTE CHARACTERIZATION AND CERTIFICATION

Prepared by: _____ **Date:** 9/9/04
Jeffrey D. May, CTAC
Audit Team Leader

Approved by: _____ **Date:** 9/15/04
Ava L. Holland, CBFO
Quality Assurance Manager

1.0 EXECUTIVE SUMMARY

Carlsbad Field Office (CBFO) Recertification Audit A-04-22 was conducted to evaluate the continued adequacy, implementation, and effectiveness of technical and quality assurance (QA) processes related to the Idaho National Engineering and Environmental Laboratory (INEEL) Advanced Mixed Waste Treatment Project (AMWTP) transuranic (TRU) waste characterization and certification activities as they relate to Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit (HWFP) for Summary Category Group S3000 homogenous solids waste, including the following activities.

Summary Category Group S3000 (solids) waste

- Sample Design
- Nondestructive Assay (NDA)
- Real Time Radioscopy (RTR)
- Visual Examination (VE) as a quality control check on RTR
- Headspace Gas (HSG) Sampling and Analysis
- Solids Sampling (SS)
- Data Generation-Level and Project-Level Verification & Validation (V&V)
- Acceptable Knowledge (AK)
  Performance Demonstration Program (PDP)
  Gas Generation Testing
  Waste Stream Profile Forms
- WIPP Waste Information System (WWIS)

The audit was conducted at the AMWTP facility August 16 through 20, 2004. The audit team concluded that overall, the AMWTP technical and QA procedures are adequate relative to the flow-down of requirements from the CBFO Quality Assurance Program Document (QAPD), WIPP Hazardous Waste Facility Permit (HWFP) Waste Analysis Plan (WAP), and Contact Handled Waste Acceptance Criteria (CH-WAC). The audit team also concluded that, except for the areas identified in this report, the defined QA Program is being satisfactorily implemented in accordance with the AMWTP Quality Assurance Project Plan (QAPjP), Certification Plan, and implementing procedures, and is effective.

The audit team determined that the AMWTP technical areas evaluated are being satisfactorily implemented and are effective in all areas except the Consonant Technologies, Inc., (CTI) Headspace Gas (HGAS) sampling and analysis system. In this area, the audit team made the determination that implementation and effectiveness were unsatisfactory and the adequacy of the implementing procedure was indeterminate.

The audit team concluded that overall, the AMWTP procedures adequately address program requirements. The audit team also determined that overall, the AMWTP program is satisfactorily implemented and is effective.

The audit team identified nine conditions adverse to quality (CAQs) resulting in the issuance of eight CBFO corrective action reports (CARs) that require corrective actions in the following areas: organization and QA program implementation, documents and records, control of measuring and test equipment (M&TE), audits and assessments, HGAS sampling and analysis, project-level data V&V (reports to management), and AK. One isolated deficiency requiring only remedial corrective actions was corrected during the audit (CDA). Four Observations were identified and eight Recommendations are being offered for the AMWTP management consideration. The CARs, CDAs, Observations, and Recommendations are described in section 6.0.

2.0 SCOPE AND PURPOSE

2.1 Scope

This recertification audit evaluated the continued adequacy, implementation, and effectiveness of technical and QA processes related to the AMWTP TRU waste characterization and certification activities as they relate to the WIPP HWFP for Summary Category Group S3000 homogenous solids waste.

The following elements were evaluated in accordance with the CBFO QAPD:

Organization/QA Program Implementation
Personnel Qualification and Training
QA Grading
Documents and Records
Procurement
Control of M&TE
Control of Nonconforming Items
Corrective Action
Audits/Assessments
Sample Control
Software
Work Processes

The following characterization technical elements were evaluated in accordance with the CH-WAC and WAP:

Sample Design
NDA
RTR
Visual Examination (VE) as a quality control check on RTR
HSG Sampling and Analysis
Solid Sampling
Data Generation-Level and Project-Level V&V
AK
PDP
Gas Generation Testing

The following CBFO certification technical elements were evaluated:

Waste Stream Profile Forms
WIPP Waste Information System (WWIS)

Evaluation of the AMWTP TRU Waste Characterization Program was based on current revisions of the following documents:

CBFO Quality Assurance Program Document (QAPD), CBFO-94-1012

Hazardous Waste Facility Permit (HWFP), Waste Isolation Pilot Plant, EPA No. NM4890139088, New Mexico Environment Department

Contact Handled Transuranic Waste Acceptance Criteria (CH-WAC) for the Waste Isolation Pilot Plant, DOE/WIPP-02-3122

AMWTP Certification Plan for INEEL Contact-Handled Transuranic Waste, MP-TRUW-8.1

AMWTP Quality Assurance Project Plan (QAPjP), MP-TRUW-8.2

AMWTP QAPjP for Gas Generation Testing Program, MP-TRUW-8.4

Related AMWTP technical and quality assurance implementing procedures

2.2 Purpose

Audit A-04-22 was conducted to evaluate the continued adequacy, implementation, and effectiveness of technical and QA processes related to the AMWTP TRU waste characterization and certification activities as they relate to Summary Category Group S3000 homogenous solids waste.

3.0 AUDIT TEAM, INSPECTORS AND OBSERVERS

AUDITORS/TECHNICAL SPECIALISTS

Jeff May	Audit Team Leader/CBFO Technical Assistance Contractor (CTAC)
Martin Navarrete	CBFO Management Representative
Dennis Miehls	CBFO Management Representative
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J. Wilburn	Auditor/CTAC
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INSPECTORS

Ed Feltcorn	Environmental Protection Agency (EPA)
Rajani Joglekar	EPA
Mike Eagle	EPA
Behram Shroff	EPA
Connie Walker	EPA Contractor
Jim Oliver	EPA Contractor

OBSERVERS

Steve Holmes	New Mexico Environment Department (NMED)
Kevin Krause	NMED
Connie Walker	NMED Contractor

4.0 AUDIT PARTICIPANTS

AMWTP individuals involved in the audit process are identified in Attachment 1. A pre-audit meeting was held at the AMWTP facilities in Idaho Falls, ID, on August 16, 2004. Daily meetings were held with AMWTP management and staff to discuss issues and potential deficiencies. The audit concluded with a post-audit meeting held at the AMWTP Facilities in Idaho Falls, ID, on August 20, 2004.

SUMMARY OF AUDIT RESULTS

Program Adequacy, Implementation, and Effectiveness

The audit team concluded that overall, the applicable AMWTP TRU waste characterization activities as described in the associated AMWTP implementing procedures are adequate, satisfactorily implemented, and effective. Attachment 2 contains a list of AMWTP documents included in the audit. Attachment 3 contains a Summary Table of Audit Results. Audit activities, including objective evidence reviewed, are described below and in the CBFO checklists and/or Objective Evidence Reviewed forms.

5.2 Quality Assurance Activities

Organization and QA Program Implementation

The audit team interviewed management and quality management personnel and reviewed documentation to verify that AMWTP met the requirements of the QAPD, Section 1.1, Organization and Quality Assurance Program. One concern was identified concerning the implementation of the CH-WAC Rev 1 and the approved WAP drum age criteria (DAC) Modification requirements prior to the CBFO approval of the AMWTP Certification Plan MP-TRUW-8.1 and the QAPjP, MP-TRUW-8.2, (CAR 04-040).

Overall, Organization and the QA Program were determined to be adequate, satisfactorily implemented, and effective.

QA Grading

The audit team interviewed personnel and reviewed documentation to verify that AMWTP met the requirements of QAPD, Section 1.1.2.3, Grading Items and Activities and Applying Management Controls. No concerns were identified.

Overall, QA Grading was determined to be adequate, satisfactorily implemented, and effective.

Personnel Qualification and Training

The audit team interviewed personnel and reviewed documentation to verify that AMWTP met the requirements of QAPD, Section 1.2, Personnel Qualification and Training. No concerns were identified.

Overall, Personnel Qualification and Training were determined to be adequate, satisfactorily implemented, and effective.

Control of Nonconforming Items and Corrective Action

The audit team interviewed personnel and reviewed documentation to verify that AMWTP met the requirements of QAPD, Section 1.3, Quality Improvement. No concerns were identified.

Overall, Quality Improvement activities were determined to be adequate, satisfactorily implemented, and effective.

Documents and Records

The audit team interviewed personnel and reviewed documentation to verify that AMWTP met the requirements of QAPD Sections 1.4, Documents, and 1.5, Records. Two concerns were identified. The first concern regarded the lack of consistency in document review comments entered on Form 1003 as required and the form is not fully completed ("Technical Point of Contact", "Comments Due By", "Reviewer's Name/Discipline", and appropriate phone numbers) (CAR 04-041). The other concern regarded inconsistencies in the methods utilized by AMWTP to transmit revised procedures to CBFO (Observation No. 1).

Overall, Documents and Records activities were determined to be adequate, satisfactorily implemented, and effective.

Work Processes

The audit team interviewed personnel and reviewed documentation to verify that AMWTP met the requirements of QAPD, Section 2.1, Work Processes. No concerns were identified.

Overall, Work Processes were determined to be adequate, satisfactorily implemented, and effective.

Procurement

The audit team interviewed personnel and reviewed documentation to verify that AMWTP met the requirements of QAPD, Section 2.3, Procurement. No concerns were identified.

Overall, Procurement activities were determined to be adequate, satisfactorily implemented, and effective.

Inspection and Testing (Control of M&TE)

The audit team interviewed personnel and reviewed documentation to verify that AMWTP met the applicable requirements of QAPD, Section 2.4, Inspection and Testing. Two concerns were identified, one concerning AMWTP not implementing the maintenance of calibration certificates/reports as required by the procedure (CAR 04-045), and one that recommended that AMWTP establish a tracking method/system to assist with ready retrieval and identification of out-of-tolerance M&TE and In Plant and Process (IP&P) Instrumentation (Recommendation No. 8).

Overall, Inspection and Testing activities were determined to be adequate, satisfactorily implemented, and effective.

Audits and Assessments

The audit team interviewed personnel and reviewed documentation to verify that AMWTP met the requirements of QAPD, Sections 3.1, Management Assessment, and 3.2, Independent Assessment. One concern was identified regarding the adequate implementation of requirements pertaining to the AMWTP assessment program (CAR 04-043).

Overall, Assessments activities were determined to be adequate, satisfactorily implemented, and effective.

Sample Control

The audit team interviewed personnel and reviewed documentation to verify that AMWTP met the requirements of QAPD, Section 4, Sample Control Requirements. The audit team evaluated sample control and the associated procedures and processes

being implemented at the AMWTP facility. The evaluation established that the handling of samples in these facilities was performed in accordance with Procedure INST-OI-16, *Drum Coring Operations*, and Procedure INST-OI-24, *Waste Packaging*. INST-OI-24 had been recently replaced with MP-TRUW-8.34, *WIPP Sample Shipments*. This procedure was reviewed and found to be adequate. The samples are stored correctly and are being tracked as they move through the process. The audit team witnessed the transfer of samples from the sample refrigerator to sample transport personnel including the packaging of samples and completion of the chain-of-custody. The audit team concluded that the sample control procedures are adequate and satisfactorily implemented and that the process is effective. The chain-of-custody process at AMWTP was also examined for samples being transported to the INEEL Analytical Laboratory Department (ALD). No concerns were identified.

Overall, the sample control program and procedures are adequate and satisfactorily implemented, and the process is effective.

Software Requirements

The audit team interviewed personnel and reviewed documentation to verify that AMWTP met the requirements of QAPD, Section 6, Software Requirements. The audit team also evaluated implementation of these procedures with respect to software development, change control, and configuration management. The evaluation included a review of the AMWTP's evaluation and acceptance of software that was developed under other QA programs (e.g., NDA software and changes provided and performed by the vendor). Change control and configuration management of developed and spreadsheet software was included in the audit evaluation (e.g., NDA spreadsheet for generating batch data reports). Software lifecycle documentation reviewed included software quality plans, user requirements specifications, software design documentation, V&V plans, test reports, and user manuals for recent changes to AMWTP-developed Data Management System (DMS) software. The audit team determined that the changes made to the spreadsheets and vendor-developed software applications are controlled and have been validated. No concerns were identified.

Overall, Software activities were determined to be adequate, satisfactorily implemented, and effective.

Technical Activities

Evaluations of applicable AMWTP technical activities are summarized in the following sections.

Nondestructive Assay (NDA)

The audit team evaluated the continued adequacy, implementation, and effectiveness of the NDA systems at the AMWTP. NDA operations are staffed and managed by British Nuclear Fuels Limited (BNFL) with technical support from Canberra Industries. Two Canberra Integrated Waste Assay Systems (IWAS) were evaluated (Z-211-102

and Z-211-103). These are the same units that were previously evaluated during CBFO Audit A-03-05. The description of the IWAS systems provided last year (included below) applies equally to the units observed during this audit. Based on a review of the current revisions of AMWTP procedures provided prior to the audit, a checklist was prepared and used to evaluate the following:

- Continued operability and condition of the IWAS equipment since Audit A-03-05
- System stability as evidenced by the implementation and effectiveness of daily and monthly measurement controls, calibration verifications and weekly interfering matrix checks
- Applicability of each system's calibration and operational range to the matrix, geometry and radionuclide content of samples assayed since Audit A-03-05
- Determination of the number of samples, completed NDA batch data reports (BDRs) and BDRs that had been through project-level review that were generated since Audit A-03-05
- Successful participation in the CBFO-sponsored NDA PDP
- Completed BDRs to ensure data are reported and reviewed as required
- Data storage and retrievability
- Personnel qualification and training
- Evaluation of the continued implementation of the corrective actions implemented to address CBFO CAR-04-006.

The audit team interviewed AMWTP NDA personnel and their support contractors, observed equipment and practices, and examined electronic and paper copies of records. The IWAS units were found to be adequate for assaying TRU waste in all aspects. One Recommendation was made regarding the inclusion of dose conversion factors in the gamma library to allow the calculation of each radionuclide's contribution to the sample's radioactive hazard (Recommendation No. 7).

The IWAS is a Canberra multi-mode hybrid system that runs on an NDA 2000 and incorporates Multi Group Analysis (MGA), as well as Multi-Group Analysis-Uranium (MGA-U), when sufficient quantities of uranium are detected. Both systems are calibrated to assay 55- and 85-gallon containers and all information in this attachment pertains to both size containers unless specified otherwise. The systems are housed in Building 634. While they are not the only radiometric systems currently in use in Building 634, they are the only systems used to assay TRU wastes for WIPP and were the only systems within the scope of this audit. Each system consists of the following components:

- High Resolution Gamma Ray Spectrometer (HGRS) using two broad energy germanium (BEGe) photon detectors mounted on top of each other in the assay chamber wall perpendicular to and pointing toward the vertical axis of the sample
- Passive neutron detector equivalent to a High Efficiency Neutron Counter (HENC) using an array of H-3 proportional tubes
- Cf-252 Add-A-Source (AAS) correction source with an intensity of ~10^5 n/s coupled with a Cs-137 source for the determination of matrix correction factors (MCF). The AAS assembly is mounted in a retractable housing external to the assay cavity
- Differential Die-Away (DDA) system for active mode neutron assays that uses four Fast Neutron Detector Packs, separate cavity and barrel flux monitors, and a pulsed neutron generator with an output of approximately 10^8 14-MeV neutron per second

Overall, NDA activities were determined to be adequate, satisfactory implemented and effective.

5.3.2 Project-Level Data Validation and Verification

The audit team evaluated the project-level data V&V process and examined 20 BDRs: five HSG, four NDA, four RTR, five VE, and two SS. The audit team examined the BDRs to determine whether the data quality objectives and activities of the Site Quality Assurance Officer (SQAO) and Site Project Manager (SPM) were being satisfactorily carried out. The audit team also examined and determined that there were no nonconformance reports generated by the SPM, which would have required CBFO notification and evidence that the comparison between VE data and RTR data was contained in the VE BDRs.

The audit team identified that the Semi-Annual Report to Management has not been completed to date as required by Procedure MP-TRUW-8.26. As a result, CAR 04-044 was initiated.

The audit team concluded that project-level V&V was adequate, satisfactorily implemented, and effective.

5.3.3 Waste Stream Profile Form

The audit team evaluated the waste stream profile form (WSPF) process by reviewing the preparation and content of WSPF Rocky Flats First/Second Stage Sludge BNINW216 and WSPF Rocky Flats First Building 374 Sludge BNINW218. The audit team determined that the procedure governing the WSPF preparation adequately addresses program requirements and the review of the WSPF, the Characterization Information Summary Reports, the AK Summary Reports; AK Summary BNFL-5232-RPT-TRUW-09, dated 3/5/04 for WSPF Rocky Flats First/Second Stage Sludge BNINW216 and AK Summary BNFL-5232-RPT-TRUW-05, dated 3/17/04 for WSPF

Rocky Flats First Building 374 Sludge BNINW218 were deemed acceptable. No concerns were identified.

The audit team concluded that the WSPF process was adequate, satisfactorily implemented, and effective.

5.3.4 Real-Time Radiography (RTR)

The audit team observed RTR operations at the AMWTP facility. The RTR-related procedures reviewed during the audit were INST-OI-12, *RTR Operations*, and MP-TRUW-8.8, *Level I Data Validation.* As part of this review, six BDRs and the associated audio/video recordings were reviewed. Training files for four operators were examined along with the video records of the scanning of the test drums. One concern was identified during the evaluation of the RTR process. This concern centered around AMWTP not issuing an NCR against RTR BDR RTR04-00043 which contained 8 containers with greater than 1 percent liquids. At the time the containers were radiographed, INST-OI-12 did not require an NCR to be issued, but subsequent BNFL corrective actions have generated NCRs for these types of containers in RTR BDRs of this vintage. It was further verified that none of the containers have been shipped to WIPP (Observation No. 2).

The audit team determined that the RTR procedures were adequate, satisfactorily implemented, and the process was effective.

5.3.5 Visual Examination

The audit team evaluated the VE procedures and processes being implemented at the AMWTP facility. VE operations (VE for confirmation of RTR) were observed in the characterization facility, and five VE BDRs and associated audio/video tapes were examined. Training files for four VE operators and the VE experts were reviewed. The VE-related procedures reviewed during the audit were INST-OI-34, *Visual Examination Operating Procedure and Data Reporting,* MP-TRUW-8.19, *RTR/VE Drum Selection,* and MP-TRUW-8.8, *Level I Data Validation.* No concerns were identified.

The audit team determined that the VE procedures were adequate, satisfactorily implemented, and effective.

5.3.6 Headspace Gas Sampling and Analysis

HSG sampling and analysis operations are performed on two systems at AMWTP: the Drum Vent System (DVS) and the CTI HGAS sampling and analysis system.

The DVS was demonstrated for the audit team, including instrument tune, calibration verification and blank (both field and equipment), and Quality Control (QC) sample analyses. Drum sampling and analysis, including drum duplicate sampling and analysis, was performed. Data reduction and reporting were demonstrated and reviews were performed on a completed and data generation-level reviewed sample BDR

(HSG04-00042). DAC verification was examined and equilibration and staging of drums were verified for compliance to the WIPP requirements. HSG volatile organic compound (VOC) and quality control (QC) standard traceability and certification were verified. HSG standard storage and preparation were examined. Initial calibration, minimum detection limit study, and method performance study were all examined and found to be compliant. Successful participation in the latest round of HSG PDP Cycle 18a was verified. Procedures for DVS operations were found to be adequate, satisfactorily implemented, and effective.

The CTI HGAS Sampling and analysis System was demonstrated for the audit team, including instrument tune, calibration verification and blank (both field and equipment) and QC sample analysis. Drum sampling and analysis, including drum duplicate sampling and analysis, was performed. During the demonstration of sampling, a sample port was installed into the drum lid using a procedure that had not been approved by CBFO as well as a sampling port that was also unapproved (CAR 04-038). During drum sampling, it was also noted that the sampler failed to cover the filter vents as required by the HWFP and AMWTP procedures (CAR 04-039). Data reduction and reporting were demonstrated and reviews were performed on a completed and data generation-level reviewed sample BDR (HS404-00111). DAC verification was examined and equilibration and staging of drums were verified for compliance to requirements. HSG VOC and QC standard traceability and certification were verified. HSG standard storage and preparation were examined. Initial calibration, minimum detection limit study, and a method performance study were all examined and found to be adequate. Successful participation in the latest round of HSG PDP Cycle 18a was verified. Two Recommendations were offered to AMWTP management for consideration. The first recommended that AMWTP include the HGAS archive printout in the BDRs since the full information for review of data packages is not included in the HGAS BDRs (Recommendation No. 2). The second recommended that AMWTP perform a manual verification of bromofluorobenzene (BFB) at the apex of BFB peak to prove compliance of the BFB tune (Recommendation No. 3).

Overall, HSG sampling and analysis activities for the DVS were determined to be adequate, satisfactorily implemented, and effective. However, the overall, HSG sampling and analysis activities for the CTI HGAS operations were found to be inadequate, unsatisfactorily implemented and ineffective.

5.3.7 Sampling Design

The audit team evaluated sample design and the associated procedures and processes being implemented at the AMWTP facility. The evaluation established that sampling design was performed in accordance with Procedures MP-TRUW-8.19, *RTR/VE Drum Selection*, and MP-TRUW-8.25, *RCRA Statistical Sampling*. The audit team reviewed the process for determining the miscertification rates at the AMWTP as documented in Procedure MP-TRUW-8.19, *RTR/VE Drum Selection*, which documents the calculations and data generated for the determination of the site-specific and the summary category group-specific miscertification rates. The audit team also evaluated the process for

randomly selecting retrievably stored containers for core sampling and totals analysis. Reduced HSG sampling is not being implemented at this time by AMWTP. The site-specific miscertification rate calculations were reviewed and found to meet the requirements of the WAP. No concerns were identified.

AMWTP procedures that address these activities were determined to be adequate and the process is satisfactorily implemented and effective.

5.3.8 Solid Sampling

The audit team evaluated the solids sampling activities and the associated procedures and processes being implemented at the AMWTP facility. Solid sampling operations were observed and three BDRs were examined. The solid sampling related procedures reviewed during the audit were MP-TRUW-8.17, *Co-Located Core Sampling Control Charts*, INST-OI-16, *Drum Coring Operations*, MP-TRUW-8.25, *RCRA Statistical Sampling*, and MP-TRUW-8.8, *Level I Data Validation*. No concerns were identified.

AMWTP procedures that address these activities were determined to be adequate and the process is satisfactorily implemented and effective.

5.3.9 Performance Demonstration Program (PDP)

The audit team reviewed PDP documentation and interviewed AMWTP PDP personnel. The audit team also reviewed information on the PDP Sample Configuration Form, PDP Sample Custody Form for NDA, PDP Sample Disassembly Form for NDA and the Analysis Report required by DOE/CBFO-01-1005, Appendix F for PDP Cycle10A. The AMWTP is contracting the Resource Conservation and Recovery Act RCRA analysis activities for Cycle 18A of the HSG PDP. No concerns were identified.

Overall, the PDP activities were determined to be adequate, satisfactorily implemented, and effective.

5.3.10 WIPP Waste Information System (WWIS)

The audit team examined AMWTP's manual and electronic WWIS data entry process and applicable documentation. The audit team compared AMWTP procedures for manual and electronic WWIS data entry with requirements in the CBFO QAPD and determined the procedures to be adequate. The audit team verified that access control had been established and that BNFL personnel are trained in WWIS data entry and AMWTP procedures. Collection and validation of certification data and population of AMWTP checklists were evaluated and determined to be adequate to provide a valid data source for data entry personnel. During the evaluation a demonstration was performed of characterization data entry into spreadsheet applications and electronic up-load into WWIS. Case file records packages were reviewed and evaluated for both certification and characterization data entry and were determined to be adequate and controlled and submitted to records in accordance with procedure. It was determined

that WWIS data entry procedures are adequate and the data entry process is satisfactorily implemented and effective.

The audit team issued two recommendations. The first addresses enhancing the Orion display screen used to confirm that all NCRs are closed prior to WWIS data entry to show the container number and include a note indicating "no records found" when queries return null results (Recommendation No. 5). Currently a blank area is displayed.

The second recommendation addresses AMWTP Form 1221/1384, which is completed with "N/A" entries where form blanks are populated to indicate that no entry is applicable for the item. After the form is printed the N/A entries are erased to allow the spreadsheet macro to function properly to create a WWIS compatible form. It was recommended that a note be added to the spreadsheet to show users which N/A entries need to be erased to run the macro (Recommendation No. 6).

Finally, the audit team reported an observation that Form 1221/1384 includes functions/macros within the spreadsheet and is controlled as a document. The software has been screened and tested regarding the development functions and macros; however, the form should be referenced within the software inventory structure to ensure proper control of future changes to this spreadsheet (Observation No. 4).

Overall, WWIS activities were determined to be adequate, satisfactorily implemented, and effective.

5.3.11 Acceptable Knowledge

As part of the audit, the team reviewed the BNFL AMWTP AK program for the solids summary category group with a focus upon the RFETS first and second stage sludge and Building 374 sludge waste streams.

The audit team reviewed and collected as objective evidence numerous AK source document summaries and BNFL reports such as BNFL-5232-RPT-TRUW-12, *AMWTP Waste Stream Designations*, and BNFL-5232-RPT-TRUW-07, *Determination of Radioisotopic Content in TRU Waste Based on AK*, that supported the compilation of programmatic and waste stream specific information in the AK Summary Reports for the RFETS second and second stage sludge (BNFL-5232-RPT-TRUW-09 R.0) and for the Bldg. 374 sludge (BNFL-5232-RPT-TRUW-15 R.0). Much of the supporting AK information for these waste streams is taken from the *Acceptable Knowledge Document for INEEL Stored TRU Waste-Rocky Flats Plant Waste*, INEL-95/0280 R.-3, which was developed by the previous contractor and includes not only the AK record they compiled but summarized confirmatory test data. AK source document summaries contain relevant information and data limitations are noted. The audit team reviewed an example of the resolution of a discrepancy in the AK record.

The audit team also reviewed the AK confirmatory testing process for the streams of interest, reviewing BDRs, NCRs for prohibited items, the resolution of discrepancies

between the AK record and confirmatory testing, and the compilation of waste stream profile forms and attachments. The team also examined documents used for random selection of solids samples, VE QC check BDRs, and the AK Accuracy report. One container from each of the two streams was selected for a traceability study. AK information collected, including data in the waste tracking system and confirmatory test results, supported the records for these drums.

The audit team identified two deficiencies during the AK review. The first deficiency involved AMWTPs failure to identify and compare the ratios of the two most prevalent radionuclides based on AK and NDA, respectively. Although the requirement was called out in more than one BNFL document, these radionuclides are not specifically identified (CAR 04-042). The second deficiency involved the AK Summary Reports for RFETS Building 374 sludge and RFETS first and second stage sludge. In the prohibited items sections, these reports indicated that free liquids are not expected in these waste streams. This statement is not accurate. AMWTP revised the wording of these reports to indicate that the AK record indicates that excess liquid is expected in these waste streams and will be tracked when found by RTR. The issue was considered to be corrected during the audit. The audit team verified and accepted the correction (CDA No. 1).

The audit team issued two Recommendations. The first addresses several changes to the AK Summary documents to correct or clarify the information presented (Recommendation No. 1). The second addresses AMWTP proceduralizing the collection of relevant waste material parameter information such as ferrous/nonferrous, cellulosics, plastics, and rubber (Recommendation No. 4). Finally, the audit team provided an observation that AMWTP identifies U233 as an expected radionuclide in the RFETS inventory based upon a review of the AK record. RFETS has listed U233 as unexpected, based on a review of essentially the same AK information. NDA data from the 3100m^3 project indicated that U233 was present in nine drums of RFETS waste. The discrepancy between RFETS and AMWTP could result in a condition adverse to quality if left uncorrected (Observation No. 3).

Overall, the AK records for the waste streams of interest were judged to be well supported by appropriate and relevant documentation and the AK Program was judged to be adequate in representing the requirements of the WAP and the TRUPACT-II Authorized Methods for Payload Control (TRAMPAC), satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.3.12 Gas Generation Test Program

The Gas Generation Test Program (GGT) was demonstrated for the audit team on August 19. Instrument calibration verification, blank, and QC sample analyses were demonstrated for the audit team. Drum loading, unloading, and sampling and analysis were performed, including drum duplicate sampling and analysis. Data reduction and reporting were demonstrated and reviews were performed on completed and data generation-level reviewed sample BDRs (GGT040005 and GGT040007). GGT hydrogen standard and QC standard traceability and certification were verified. Initial

calibration, minimum detection limit study, and method performance study were all examined and found to be compliant. Procedures for GGT operations were found to be adequate, successfully implemented, and effective. No concerns were identified.

Overall, the GGT Program activities were determined to be adequate, satisfactorily implemented, and effective.

CARs, CDAs, OBSERVATIONS, AND RECOMMENDATIONS

Corrective Action Reports

6.1.2 CARs Initiated as a Result of CBFO Audit A-04-22

During the audit, the audit team may identify Conditions Adverse to Quality (CAQ) and document such conditions on Corrective Action Reports (CARs).

Condition Adverse to Quality (CAQ) – An all-inclusive term used in reference to any of the following: failures, malfunctions, deficiencies, defective items, nonconformances, and technical inadequacies.

Significant Condition Adverse to Quality – A condition which, if uncorrected, could have a serious effect on safety, operability, waste confinement, TRU waste site certification, regulatory compliance demonstration, or the effective implementation of the QA program.

Eight CARs, briefly described below, were initiated as a result of Audit A-04-22 and have been transmitted to AMWTP under separate cover.

6.1.2.1 CBFO CAR 04-038

During the observation of the HSG sampling process using the CTI HSG equipment, the audit team noted that AMWTP personnel were using AMWTP Procedure INST-OI-44, *Sampling Port Installation*, to install sample ports into four drums. This procedure had not been submitted to CBFO for review and approval prior to use. It was determined by the audit team that approximately 130 drums have had these unapproved sample ports installed.

6.1.2.2 CBFO CAR 04-039

A BNFL Operations Technician failed to cover filter vents during HGAS sampling.

6.1.2.3 CBFO CAR 04-040

AMWTP has implemented the requirements of CH-WAC Revision 1 and the approved WAP DAC Modification prior to the CBFO approval of the AMWTP Certification Plan MP-TRUW-8.1 and the QAPjP, MP-TRUW-8.2.

6.1.2.4 CBFO CAR 04-041

A sample of 22 documents out of a total of 69 was evaluated for review comments documented on Form 1003. Four had e-mail comments not documented on the form; two had a marked up section of the procedure without comments documented on the form; 14 had incomplete 1003 forms; and two had completed 1003 forms. Document review comments are not consistently entered on Form 1003 as required and the form is not fully completed ("Technical Point of Contact," "Comments Due By," "Reviewer's Name/Discipline," and appropriate phone numbers).

6.1.2.5 CBFO CAR 04-042

WIPP CH-WAC Section A.2.1 requires that AK identify the two most prevalent radionuclides in a waste stream and that these data be compared with the results of NDA. Although BNFL-5232-RPT-TRUW-07 discusses the requirement in the introduction, the two most prevalent radionuclides are not identified. The AK procedure provides an AK NDA checklist question that documents the comparison between AK and NDA, but AMWTP did not identify the two most prevalent radionuclides.

6.1.2.6 CBFO CAR 04-043

The following conditions were noted during the audit:

- No Internal Independent Assessments have been performed.
- The report for External Independent Assessment QA-2004-002 was not issued until 103 days after the assessment.
- No annual Independent Assessment Summary Report has been issued.
- Procedure MP-M&IA-17.2 has not been updated to reflect the use of the Trackwise system.

6.1.2.7 CBFO CAR 04-044

The SQAO has not completed a semi-annual report to management to date. MP-TRUW-8.26 has been effective since 8/15/02.

6.1.2.8 CBFO CAR 04-045

Original calibration certificates/reports for the following M&TE were not forwarded or maintained in document control as required by INST-CMNT-10.5.1, Section 4.3.1.3.1.2:

MTE-204 MTE-256
MTE-174 MTE-195

Deficiencies Corrected During the Audit (CDA)

During the audit, the audit team may identify CAQs. The audit team members and the Audit Team Leader (ATL) evaluate the CAQs to determine if they are significant. Once a determination is made that the CAQ is not significant, the audit team member, in conjunction with the ATL, determines if the CAQ is an isolated case requiring only remedial action and therefore can be Corrected During the Audit (CDA). Deficiencies that can be classified as CDA are those isolated deficiencies that do not require a root cause determination or actions to preclude recurrence, and those for which correction of the deficiency can be verified prior to the end of the audit. Examples include:

- One or two minor changes required to correct a procedure (isolated)
- One or two forms not signed or not dated (isolated)
- One or two individuals have not completed a reading assignment

Upon determination that the CAQ is isolated, the audit team member, in conjunction with the ATL, evaluates/verifies any objective evidence/actions submitted or taken by the audited organization and determines if the condition was corrected in an acceptable manner. Once it has been determined that the CAQ has been corrected, the ATL categorizes the condition as a CDA.

One deficiency, requiring remedial action only, was identified during the audit. The CDA, described below was corrected and verified before the completion of the audit and is identified on the completed audit checklists and documented on the Corrected During the Audit Forms, which are maintained as CBFO QA records.

1 The AK Summary Reports for RFETS Bldg. 374 Sludge and RFETS first and second stage sludge indicates in the prohibited items section, section 1.5, that free liquids are not expected in these streams. This statement is not accurate. The section appears to have been written to cover confirmation and treatment activities when it should only address the AK record.

AMWTP revised the wording of section 1.5 of these reports to indicate that the AK record indicates that excess liquid is expected in these waste streams and will be tracked when found by RTR. This was found to be acceptable.

Observations

During the audit, the audit team may identify potential problems that should be communicated to the audited organization. The audit team members, in conjunction with the ATL, evaluate these conditions and classify them as Observations the following definition:

Observation – A condition that, if not controlled, could result in a CAQ.

Once a determination is made, the audit team member, in conjunction with the ATL, categorizes the condition appropriately.

The following four Observations were identified during the audit:

1. AMWTP WIPP procedures that undergo minor changes or document revisions that do not affect data quality, Data Quality Objectives (DQOs), or performance criteria are approved and issued without CBFO approval, as allowed by procedure. Many revised documents are not reaching the appropriate CBFO/CTAC personnel, causing uncertainty whether work at the AMWTP is being done to the most current revision. This problem also pertains to obtaining/tracking the latest AMWTP forms.

2. Radiography BDR RTR04-00043 contains eight containers with greater than 1 percent liquids. No NCR was issued on this BDR. At the time the containers were radiographed, INST-OI-12 did not require an NCR to be issued, but subsequent BNFL corrective actions have generated NCRs for these types of containers in RTR BDRs of this vintage. The audit team verified that none of the containers have been shipped to WIPP.

3. BNFL-5232-RPT-TRUW-07, *Determination of Radioisotopic Content In TRU Waste Based on AK*, lists U233 as an expected radionuclide in the RFETS inventory based on a review of the AK record. RFETS has listed U233 as unexpected based on a review of essentially the same AK information. NDA data from the 3100m^3 project indicted that U233 was present in nine drums of RFETS waste. The discrepancy between RFETS and AMWTP could result in a condition adverse to quality if left uncorrected.

4. Form 1221/1384 includes functions/macros within the spreadsheet and is controlled as a document. Software has been screened and tested regarding the development functions and macros. This form should be referenced within the software inventory structure to ensure proper control of future changes to this spreadsheet.

6.4 Recommendations

During the audit, the audit team may identify suggestions for improvement that should be communicated to the audited organization. The audit team members, in conjunction with the ATL, evaluate these conditions and classify them as Recommendations using the following definition:

Recommendations – Suggestions that are directed toward identifying opportunities for improvement and enhancing methods of implementing requirements.

Once a determination is made, the audit team member, in conjunction with the ATL, categorizes the condition appropriately.

The following eight Recommendations were presented for AMWTP management consideration:

1. Recommended Changes to BNFL -5232-RPT-TRUW-15, *AK Summary for Building 374 Sludge*," and BNFL-5232-RPT-TRUW-09, *AK Summary for First/Second Stage Sludge*

   BNFL-5232-RPT-TRUW-15

   - Traceability to specific relevant AK Source documents is lacking. A clear connection to these documents, as they are cited in appropriate sections of INEL-96/0280, should be made with more detail than is provided on page vii. It would also be useful to reference Form 1066 and in particular, Form 1067. These forms provide a crosswalk between WAP requirements and specific AK Source documents. This information is of particular interest and importance for section 1.4.3, Material Inputs and 1.6 RCRA Determination.
   - Delete the last line in the TWBIR Information section 1.2.6, page 1, or note why the last line is repeated (i.e., add applicable IDC codes).
   - Clarify the meaning of "heated flights" page 5, first paragraph.
   - Provide additional information relative to material properties for trade name items in Table 1-2, page 5, such as Trim Sol, Oakite Cleaner, and Ox Out 536.
   - Resolve the discrepancies between the dates of generation for IDC 007 between section 1.2.4 on page 1, Table 1-1 on page 2, and section 2.1.2 on page 12.
   - Section 1.7 on page 12 should provide more detailed information concerning the radionuclide properties for this waste stream. From the description provided, the reader cannot even assess that the waste contains WG Pu.
   - In section 1.7, page 12, clarify whether the Cs-137 detected in RFETS waste is from the original separations activity during fuel reprocessing or from "research and analytical activities," or both.
   - Clarify the terms "drum stub bag" and "filtered bag" in section 2.1.3, page 13

   BNFL-5232-RPT-TRUW-09

   - See first bullet above.
   - Clarify why section 1.2.4.1, page 1, states that IDC 002 waste was produced between 1969 and 1985, while Table 1-1, page 3, indicates that IDC 002 was combined with IDC 001 beginning in 1979.

- Clarify "Part V waste solutions" in section 1.4.4.1, page 5
- See eighth bullet above for Table 1-5, page 9, and section 2.1.3, page 18
- See sixth and seventh bullets above for section 1.7, page 14

2. Recommend putting the HGAS archive printout in the BDRs since full information for review of data packages is not included in the HGAS BDRs.

3. Recommend that AMWTP perform a manual verification of BFB at the apex of BFB peak to prove compliance of the BFB tune. The BFB tune is being performed on the "1st passing scan."

4. BNFL provides information in the AK Summary documents regarding ferrous/nonferrous metals, cellulosics, plastics, and rubber (CPR). However, the collection of this relevant waste material parameter information is not proceduralized, specifically in the AK procedure MP-TRUW-8.13, R9, *Collection Review Confirmation and Management of AK Documentation*. It is recommended that this be procedualized.

5. The NCR database on the Orion server is used by Waste Certification Officials (WCOs) to confirm all NCRs for containers are closed prior to WWIS data entry. Recommend that the display screen shows the container number and a note indicating "No records found" when queries return null results. Currently, a blank area is displayed.

6. Form 1221/1384 is completed with "N/A" entries where form blanks are populated to indicate that no entry is applicable for the item. After the form is printed, the N/A entries are erased to allow the spreadsheet macro to function properly to create a WWIS-compatible form. Recommend that a note be added to the spreadsheet to show the users which N/A entries need to be erased to run the macro.

7. Recommend that the gamma library include the dose conversion factors for all radionuclides. This is needed to evaluate the contribution to the radioactive hazard of each radionuclide.

8. Recommend that a tracking method/system be established to readily retrieve and identify out-of-tolerance M&TE and IP&P Instrumentation.

7.0 LIST OF ATTACHMENTS

Attachment 1: Personnel Contacted During the Audit
Attachment 2: AMWTP Documents Audited
Attachment 3: Summary Table of Audit Results

PERSONNEL CONTACTED DURING THE AUDIT				
NAME	TITLE/ORG	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST AUDIT MEETING
Anderson, Eric	Project Procurement Mgr., BNFL	X	X	
Bake, Kevin	Eng & Main./BNFL	X	X	
Barnside, Kenny	RTR Validation SME, BNFL		X	
Blattner, Delisa	Eng & Maint/Records, BNFL		X	
Bowman, Vivian	WCO/TCO GGTP Specialist/ BNFL		X	
Bowen, Paul	Warehouse, BNFL		X	
Boyd, Kimberly	WTS/BNFL		X	
Blather, Delisa	Ops Records, BNFL		X	
Clapham, Martin	Physicist NDA, BNFL	X	X	
Colby, Charles	HSG SME, BNFL	X	X	
Conlon-Empey, Karen	Software admin., BNFL		X	
Cook, Dale	Database Adm, BNFL		X	
Contos, John	Eng./Maint. Mgr./BNFL	X	X	
Delley, Dave	Maint./BNFL		X	
Dobson, A. J.	General Manager/BNFL	X		X
Dumas, Elvin	QA Manager/BNFL	X	X	X
Edgerton, Brian	DOE-ID AMWTP PM			
English, Brian	Analyst, IDEQ	X		X
Green, Lisa	ADM/ICP, DOE-ID			X
Gulbransen, Ed	NDA, BNFL		X	
Hailey, Sheila	AKE/BNFL		X	
Harris, James	RSM/OSM, BNFL		X	X
Harrawood, Ken	PLV&V Group Mgr., BNFL	X		X
Harrison, Rod	Warehouse, BNFL		X	
Heileson, Enock	Maintenance Dept, BNFL		X	
Herni, James	Ops Support mgr., BNFL		X	
Hickey, Joe	QA, BNFL			X
Hovis, Darrin	WWIS Data Entry Lead/WCO, Stoller		X	
Hubler, Rachelle	Shipping, BNFL		X	

PERSONNEL CONTACTED DURING THE AUDIT				
NAME	TITLE/ORG	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST AUDIT MEETING
Jenkins, Talley	DOE-ID	X		X
Lundblade, Dale	Procurement, BNFL		X	
Maggart, Charles	Nuc Engr., DOE-ID	X	X	X
Marden, Chris	Corp. QA Mgr, BNFL	X		
Masulonis, John	Ops, BNFL		X	
May, B. Mark	Training, BNFL		X	
Mcleod, Natalie	Env. Comp. Analyst, IDEQ	X		
McKirdy, Ian	DMS Mgr, BNFL	X	X	
Medina, Vince	VEE, BNFL		X	
Melton, Jessie	HSG SME	X	X	
Mills, Tom	Ops, BNFL		X	
Monson, Stephen	Chemist-Ops, BNFL		X	
Morse, Angie	QA Spec, BNFL		X	
Nielson, Terrill	Proj. Mgr., Security Connections Inc.		X	
Ochi, Gail	Training, BNFL		X	
Piper, Stella Martinez	WTS, BNFL		X	
Poirier, Joe	RTR ITR, BNFL		X	
Pound, Don	WCO/TCO, BNFL	X	X	
Richards, Karlan	Shipping, BNFL		X	
Rozack, Adam	Ops, BNFL		X	
Ruth, Sean	HSG Ops, BNFL		X	
Schweinsberg, Eric	TRU Program/BNFL	X		X
Snook, Jeff	Project Mgr., DOE-ID	X		X
Sprague, Robert	Ops, BNFL		X	
Stone, Keith	Fac. Mgr., BNFL SRS	X		X
Swale, Dave	Programs Manager, BNFL	X		
Szabo, Jeremy	Ops, BNFL		X	
Tedford, Gina	WCO/TCO/BNFL	X		
Todd, Ron	Maintenance Team Leader/BNFL		X	
Tolman, Betty	AKE, BNFL		X	
Utley Patricia	SQAO/BNFL		X	

PERSONNEL CONTACTED DURING THE AUDIT				
NAME	TITLE/ORG	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST AUDIT MEETING
Varela, Lori	TRU Programs Waste Data Management, BNFL		X	
Walker, Reed	RTR ITR, BNFL		X	
Walker, Sherrie	Document Control/BNFL		X	
Wells, Jerry	TRU Waste Prog., DOE-ID	X		
Yount, Steve	Ops, BNFL		X	

AMWTP DOCUMENTS AUDITED IN AUDIT A-04-22			
	Procedure Number		Procedure Title
1.	CI-IDA-NDA	0035	Calibration Verification & Confirmation Procedure for Integrated Waste Assay System (IWAS)
2.	INST-CD&M	11.1.1	Facility Modification Screening
3.	INST-CD&M	11.2.1	Software Version Control
4.	INST-CD&M	11.1.2	Facility Modification Proposal Preparation
5.	INST-CD&M	11.2.2	Software Inventory Classification
6.	INST-CD&M	11.2.3	System Data Change Requests
7.	INST-CMNT	10.14.1	Testing In-Plant and Process Instrumentation
8.	INST-CMNT	10.5.1	Calibration and Control of Measuring and Test Equipment
9.	INST-OI	12	RTR Operations
10.	INST-OI	13	Drum Vent/Headspace Gas Sample Operations
11.	INST-OI	14	Drum Assay Operations
12.	INST-OI	16	Drum Coring Operations
13.	INST-OI	18	Gas Generation Testing Operation
14.	INST-OI	24	Waste Packaging
15.	INST-OI	34	Visual Examination Operating Procedure and Data Reporting
16.	INST-OI	43	HGAS Sampling and Analysis Operations
17.	INST-OI	44	Self-Tapping Screw Sampling Port Installation
18.	INST-TRUW	6.1.1	Drum Assay Post Maintenance Calibration & Verification
19.	INST-TRUW	6.2.1	HSG Calibration
20.	MP-ADMIN	1.13	AMWTP Organization Charts
21.	MP-CD&M	11.1	Change Control
22.	MP-CD&M	11.2	Software Quality Assurance
23.	MP-CMNT	10.14	In-Plant and Process Instrumentation Testing Program
24.	MP-CMNT	10.3	Supply Chain Management
25.	MP-CMNT	10.5	Calibration of Measuring and Test Equipment Program
26.	MP-DOCS	18.1	Developing Written Work Instructions
27.	MP-DOCS	18.2	AMWTP Records Management
28.	MP-DOCS	18.3	Developing Management Procedures
29.	MP-DOCS	18.4	Document Control
30.	MP-M&IA	17.1	Management Assessments
31.	MP-M&IA	17.2	Independent Assessments
32.	MP-M&IA	17.3	Surveillances
33.	MP-PCMT	15.1	Purchase Requisition Preparation
34.	MP-PCMT	15.3	Purchase Order/Subcontract Contract Preparation & Control
35.	MP-PCMT	15.4	Evaluation of Proposals
36.	MP-PCMT	15.6	Acceptance of Items and Services
37.	MP-PCMT	15.7	Vendor Qualification and Performance Evaluation
38.	MP-Q&SI	5.1	Investigations & Root Cause Analysis
39.	MP-Q&SI	5.3	Corrective Action
40.	MP-Q&SI	5.4	Identification of Nonconforming Conditions
41.	MP-Q&SI	5.6	Graded Approach
42.	MP-Q&SI	5.7	Quality Inspections
43.	MP-Q&SI	5.8	Qualification of Inspection, Test and Audit Personnel
44.	MP-RTQP	14.1	Preparation and Administration of Individual Training Plans
45.	MP-RTQP	14.16	Training Program Evaluation
46.	MP-RTQP	14.19	Training Records Administration
47.	MP-RTQP	14.20	Training Implementation Matrix (TIM)

AMWTP DOCUMENTS AUDITED IN AUDIT A-04-22			
	Procedure Number		Procedure Title
48.	MP-RTQP	14.4	Personnel Qualification and Certification
49.	MP-RTQP	14.6	Job and Training Needs Analysis
50.	MP-TRUW	8.1	Certification Plan for INEEL CH-TRU Waste
51.	MP-TRUW	8.11	Data Reconciliation
52.	MP-TRUW	8.13	Collection, Review, Confirmation, and Management of Acceptable Knowledge Documentation
53.	MP-TRUW	8.14	Preparation of Waste Stream Profile Forms
54.	MP-TRUW	8.16	WWIS Data Transfer
55.	MP-TRUW	8.17	Co-located Core Sampling Control Charts
56.	MP-TRUW	8.19	RTR/VE Drum Selection
57.	MP-TRUW	8.2	Quality Assurance Project Plan (QAPjP)
58.	MP-TRUW	8.25	RCRA Statistical Sampling
59.	MP-TRUW	8.26	Reports to Management
60.	MP-TRUW	8.34	WIPP Sample Shipments
61.	MP-TRUW	8.4	QAPjP for Gas Generation Testing Program
62.	MP-TRUW	8.8	Level I Data Validation
63.	MP-TRUW	8.9	Level II Data Validation

SUMMARY TABLE OF AUDIT RESULTS

EVALUATED QA AND TECHNICAL ELEMENTS	Concern Classification				QA / Technical Evaluation		
	CARs	CDAs	OBSs	RECs	Program Adequacy	Effectiveness of Implementation	Effectiveness of Program
Organization & QA Program Implementation	04-040				A	S	E
Personnel Qualification and Training					A	S	E
Documents and Records	04-041		1		A	S	E
					A	S	E
Control of Measuring & Test Equipment	04-045			8	A	S	E
Control of Nonconforming Items Corrective Action					A	S	E
Audits and Assessments	04-043				A	S	E
Software Requirements					A	S	E
QA Grading					A	S	E
Work Processes					A	S	E
Gas Generation Testing Level I data Validation					A	S	E
NDA Level 1 Data Validation				7	A	S	E
RTR Level 1 Data Validation			2		A	S	E
Visual Examination Level 1 Data Validation					A	S	E
HSG Sampling and Analysis Level 1 Data Validation	04-038 04-039			2, 3	DVS/ A CTI/ I	S U	E U
Solids Sampling, Sample Control & Design Level 1 Data Validation					A	S	E
Performance Demonstration Program					A	S	E
Project Level Data Validation & Verification & WSPF	04-044				A	S	E
Acceptable Knowledge	04-042	1	3	1, 4	A	S	E
WWIS Data Transfer			4	5, 6	A	S	E
SUMMARY TOTALS	8	1	4	8	A	S	E

LEDGEND: CARs = Corrective Action Reports; CDAs = Concerns Corrected During the Audit; OBSs = Observations; RECs = Recommendations
ADEQUACY/EFFECTIVENESS STATEMENTS: A = Adequate; S = Satisfactory; UNSAT = Unsatisfactory; E = Effective; I = Indeterminate; M = Marginal;